

WHAT IS SUBSTITUTION TREATMENT? – PART 1

There are an estimated 13.2 million injecting drug users worldwide, and at least 10% of all cases of HIV infection worldwide result from unsafe injecting behaviour – in countries in Eastern Europe and central Asia, up to 90%. Many drug users spend years of their lives going in and out of prison. Generally, prisoners are often from the poorest sectors of society and consequently already have worse health than other social groups. Being in prison commonly exacerbates existing health problems, especially with vulnerable groups such as drug users.

Background

Prisons are extremely high-risk environments for HIV transmission because of overcrowding, poor nutrition, limited access to prevention measures, continued illicit drug use and unprotected sex.

- Injecting drug users are vulnerable to infection with HIV and other blood borne viruses as a result of sharing or reusing injecting equipment and drug solution, sexual contact with other injecting drug users and high-risk sexual activity. There is a high level of injecting use amongst men and women prior to their arrival in prison. Female drug users may be more likely to use their partner's injecting equipment and often have difficulty in negotiating low risk sexual practices and condom use. Injecting drug users are relatively more likely to be involved in the sex industry.
- Injecting drug use is now the dominant mode of transmission of hepatitis C virus. Infection with hepatitis C virus results in chronic infection in at least 50–85% of cases. About 7–15% of chronically infected people progress to liver cirrhosis within 20 years, and of these, a proportion will subsequently develop liver cancer.
- The costs of law enforcement, court time and imprisonment together contribute substantially to the social costs associated with opioid dependence.
- On release, prisoners with opioid dependence are at risk of relapse and overdose.

Between 70% and 98% of the people who have been imprisoned for drug related crimes and not treated during the course of their incarceration relapse within the year following release.

To reduce drug use and its harm in prisons, prison systems should encourage drug users not to use drugs at all; and if they continue to use, not to inject; and if they inject, not to share injection equipment.



Providing both drug dependence treatment and harm reduction programmes in prison is therefore essential (Stöver et al. 2007).

A consensus is growing that drug dependence treatment can be effective in prison if it responds to the needs of prisoners and is of sufficient length and quality and if after care is provided upon release.

There are many types of drug dependence treatment, but they basically fall into two categories: substitution treatment and abstinence-based programmes.

All forms of drug dependence treatment influence the risk of HIV transmission, but substitution treatment programmes have the greatest potential to reduce injecting drug use and the resulting risk of spread of infection.

Substitution therapy (agonist pharmacotherapy, agonist replacement therapy or agonist-assisted therapy) is defined as the administration under medical supervision of a prescribed substance, pharmaceutically related to the one producing dependence, to people with substance dependence, for achieving defined therapeutic aims.

Opioid substitution treatment (OST) is a form of health care for heroin and other opiate-dependent people using prescribed opioid agonists, which have some properties similar or identical properties to the ones of heroin and morphine on the brain and which alleviate withdrawal symptoms and block the craving for illicit opiates. Examples of opiate agonists are methadone, levoalpha-acetylmethadol, sustained-release morphine, codeine, buprenorphine (a partial agonist- antagonist) and, in some countries, diamorphine. Most of these substances, except for diamorphine, are characterised by a long duration of action and the absence of “rush”.

Antagonists, which reverse the effects of other opiates, are also used in treating opiate dependence. They occupy the same receptor sites in the brain as opiates and therefore block the effects of other opiates. However, they do not stop craving. If someone takes an antagonist and takes an opiate afterwards, the euphoric effects of the opiate are nullified as they cannot act on the brain. If the antagonist is taken after the opiate, an opiate-dependent person will immediately go into opiate withdrawal (so antagonists are contraindicated for people who have not been detoxified from opiates). Naltrexone is the opioid antagonist most commonly used in treating opiate dependence. Naloxone is only used for the emergency reversal of opiate overdose situations. Buprenorphine is a partial agonist-antagonist and is being used increasingly to treat opiate dependence. There are combinations of naloxone with buprenorphine (1:4 ratio) to prevent the abuse of the medication via injection.



Table 1. Differences between agonists and antagonists

Agonist (methadone; levo-alpha-acetylmethadol; long acting morphine and heroin)	Antagonist (naltrexone and naloxone)
Substitution treatment	Blocking or aversion treatment
Have some actions similar to opiates	Block the action of opiates
Alleviate or stop craving for opiates	Do not alleviate or stop craving for opiates
Do not produce a rush (except for diamorphine)	Do not produce a rush
Can produce or maintain physical dependence	Do not produce physical dependence

Substitution treatment is valuable because it provides an opportunity for dependent drug users to reduce their exposure to high-risk behaviour and to stabilise in health and social terms before addressing the physical adaptation dimension of dependence. Substitution treatment is generally considered for people who have difficulty in stopping their drug use and completing withdrawal. It is desirable for substitution drugs to have a longer duration of action, or half-life, than the drug they are replacing to delay the emergence of withdrawal and reduce the frequency of administration. This allows the person to focus on normal life activities without the need to obtain and administer drugs. Further, substituting prescribed medication for an illicit drug helps in breaking the connections with criminal activity while supporting the process of changing lifestyle. Good quality treatment should be:

- ongoing, in keeping with treatments for other chronic illness (e.g. antiviral/ antiretroviral treatment);
- able to address the multiple problems that are risks for relapse – such as medical and psychiatric symptoms and social instability;
- well integrated into society to permit ready access for monitoring purposes and to forestall relapse.

Other characteristics of good models include:

- the adequacy of the period of time available for treatment;
- the availability of close links to community health and drug services; the amount of retraining provided for the physicians and nurses involved;
- and the extent to which the views of the prisoners themselves have been considered.

As pointed out by the joint position paper of WHO/UNODC/UNAIDS (2004) on Substitution maintenance therapy in the management of opioid dependence and HIV/AIDS prevention “no single treatment is effective for all individuals, therefore services should be sufficiently varied and flexible to respond to the needs of clients, their severity of dependence, personal circumstances, motivation and response to interventions. The rational management of opioid dependence calls



for the balanced combination of pharmacotherapy, psychotherapy, psychosocial rehabilitation and risk reduction interventions.”

Seeking an equivalence of health care in the community and in prison this outlined diversity of treatment approaches needs to be transferred into the prison setting.

The main goals of substitution treatment

Although the ultimate goal of treatment may be to get people to stop using drugs, the main aims of substitution treatment are based on the concepts of public health and harm reduction.

The aims of substitution treatment are:

- to assist people in remaining healthy until, with the appropriate care and support, they can achieve a drug-free life or, if they cannot or want to quit the programme, be in treatment for years or even for their lifetime;
- to reduce the use of illicit or non-prescribed drugs;
- to deal with problems related to drug misuse;
- to reduce the dangers associated with drug misuse, particularly the risk of transmitting HIV, hepatitis B and C virus and other blood borne infections from injecting and sharing injecting paraphernalia;
- to reduce the duration of episodes of drug misuse;
- to reduce the chances of future relapse to drug misuse;
- to reduce the need for criminal activity to finance drug misuse;
- to stabilise the person where appropriate on a substitute medication to alleviate withdrawal symptoms;
- to improve overall personal, social and family functioning; and
- to reduce the risk of drug-related death, particularly on the point of release from prison.

Evidence of the benefits of substitution treatment

(Please see full overview: Stallwitz & Stöver 2007)

The most common form of substitution treatment is methadone maintenance treatment. Methadone has been used to treat heroin and other opiate dependence for decades. The more recently developed buprenorphine is also quite commonly used in some countries (for more details about these and other substitution agents, see table 1 and 2). Both have been proven to greatly reduce the risk of HIV infection by reducing drug injection and improving the health and quality of life of opiate-dependent people.



Community substitution treatment programmes have rapidly expanded since the mid-1990s. Today, more than half a million drug users receive substitution treatment worldwide. Substitution treatment has expanded substantially in the European Union in the past 5–10 years. Today, all European Union countries have substitution treatment programmes in some shape or form, although countries vary considerably in the extent and nature of the treatment accessibility and quality. Substitution treatment in its different forms has established itself as a widely accepted harm reduction and treatment measure for opiate-dependent individuals in the community (Council of Europe, 2001).

In a common position paper, WHO, the United Nations Office on Drugs and Crime (UNODC) and UNAIDS (2004) stated the following.

Substitution maintenance therapy is one of the most effective treatment options for opioid dependence. It can decrease the high cost of opioid dependence to individuals, their families and society at large by reducing heroin use, associated deaths, HIV risk behaviours and criminal activity. Substitution maintenance therapy is a critical component of community-based approaches in the management of opioid dependence and the prevention of HIV infection among injecting drug users.

The prescription of substitution treatment and administration of opioid agonists to people with opioid dependence – in the framework of recognised medical practice approved by competent authorities – is in accordance with the 1961 Single Convention on Narcotic Drugs and the 1971 Convention on Psychotropic Substances.

Ample data support the effectiveness of substitution treatment programmes in reducing high-risk injecting behaviour and in reducing the risk of contracting HIV. Substitution treatment is the most effective treatment available for heroin-dependent injecting drug users in terms of reducing mortality (the death rate of people with opioid dependence in methadone maintenance treatment being one third to one quarter the rate for those not in treatment), heroin consumption and crime. Drug users have considerable criminal involvement before entering treatment, with these levels reduced by about half after one year of methadone maintenance treatment. Benefits are greatest during and immediately after treatment, but significant improvement remains for several years after treatment. Reductions are most marked in drug-related criminal behaviour. Many of the concerns raised about substitution treatment have been shown to be unfounded. In particular, substitution treatment has not been shown to be an obstacle to ceasing drug use, and in fact, substitution treatment has been found to be more effective than detoxification programmes in promoting retention in drug treatment programmes and abstinence from illegal drug use.



Substitution treatment is a cost-effective method of treatment, comparing favourably in terms of cost-effectiveness with other health care interventions, such as therapy for severe hypertension or for HIV infection and AIDS. According to several conservative estimates, every Euro invested in programmes may yield a return of between four and seven Euros in reduced drug-related crime, criminal justice costs and theft alone. When savings related to health care are included, total savings can exceed costs by a ratio of 12:1. Injecting drug users who do not enter treatment are up to six times more likely to become infected with HIV than injectors who enter and remain in treatment (National Institute on Drug Abuse, 2000).

Finally, people who are on substitution treatment and who are forced to withdraw from methadone because they are incarcerated often return to narcotic use, often within the prison system and often via injection. It has therefore been widely recommended that prisoners who were on substitution treatment outside prison should be allowed to continue this treatment in prison (United Nations Office on Drugs and Crime, UNAIDS and WHO, 2006).

In prisons, as in the community, substitution treatment, if made available to prisoners, has the potential of reducing injecting and syringe-sharing. The WHO (1993) Guidelines on HIV infection and AIDS in prisons therefore recommend: "Prisoners on methadone maintenance prior to imprisonment should be able to continue this treatment while in prison. In countries where methadone maintenance is available to opiate-dependent individuals in the community, this treatment should also be available in prisons." Similarly, the Dublin Declaration on HIV/AIDS in Prisons in Europe and Central Asia (Lines et al., 2004) states:

Article 1: Prisoners have a right to protect themselves against HIV infection.

Prisoners living with HIV/AIDS have a right to protect themselves from re-infection and/or co-infection with hepatitis C and/or TB. Therefore, States have a responsibility to provide free access to methadone and other substitution treatments to prisoners in those countries where these treatments are provided in the community. This must include both the ability of people who are already on such a treatment to continue it when incarcerated and the ability to initiate substitution treatment during incarceration. Countries that have not legalised or implemented substitution treatments should do so.

The full text of the Dublin Declaration on HIV/AIDS in Prisons in Europe and Central Asia is here http://www.drugpolicy.org/docUploads/dublin_declaration_2004.pdf

Worldwide, an increasing number of prison systems are offering substitution treatment to prisoners, including prison systems in Australia and Canada, some systems in the United States, most of the systems in countries of the European Union and systems in other countries, including



Indonesia and the Islamic Republic of Iran. In Spain, 18% of all prisoners, or 82% of problem drug users in prison, receive this treatment.

Substitution treatment programmes also exist in prisons in the new Member States of the EU, although they often remain small and benefit only a small number of prisoners in need. Finally, an increasing number of systems in the eastern part of the WHO European Region have started substitution treatment programmes, such as the Republic of Moldova or Kyrgyzstan, but substitution treatment remains unavailable in prisons in other countries in the region. Initially, substitution treatment in prisons was often made available only to inmates living with HIV or with other infectious diseases or pregnant women. Provision generally remains insufficient and below the standards of substitution treatment in the community. In many countries, substitution treatment is still likely to be discontinued when people on treatment enter prison. A treatment gap persists between those requiring substitution treatment and those receiving it.

Some prison systems are still reluctant to make substitution treatment available or to extend availability to the prisoners who were not receiving it before incarceration. Some consider methadone or buprenorphine as just another moodaltering drug, the provision of which delays the necessary personal growth required to move beyond a drug-centred existence. Some also object to substitution treatment on moral grounds, arguing that it merely replaces one drug of dependence with another. Other reasons for resistance to substitution treatment include:

- the fact that prisons are supposed to be drug-free;
- the fear that the substitute drugs may be diverted and sold;
- a lack of understanding of drug dependence as a chronic disease;
- limited space and lack of resources and personnel in many prisons;
- the cost of substitution treatment and the additional organisational tasks required to implement it,
- anxiety that substitution treatment will destabilise the prison.

Patient and persistent outlining of the strong evidence of the advantages that substitution treatment can bring both to prisoners and to the institution as a whole is the best way to overcoming these barriers. Specialist clinicians may need to keep hold of the fact that knowledge of the enduring and recurrent nature of drug dependence is not widespread among medical or managerial colleagues in prison. Moreover, substitution treatment often appears to the lay person to be more likely to exacerbate rather than ameliorate the health and social problems associated with drug dependence. The specialist should therefore listen to and understand the misgivings of colleagues, whilst continuing to educate and advocate on behalf of drug users who merit this straightforward and economic form of treatment that has been proven to potentially improve and extend life.



Some prisoners are also reluctant to benefit from substitution treatment in prisons, either because they lack information about the benefits of substitution treatment or because they want to hide their drug use (one reason being that they fear prejudice and disadvantageous treatment if seen as a drug user), which is impossible if they receive substitution treatment.

If there were reliably effective alternative methods of achieving enduring abstinence, substitution therapy could indeed be seen as inadequate. However, there are no such alternatives (Dolan & Wodak, 1996).

The majority of heroin-dependent patients relapse to heroin use after detoxification; and few are attracted into, and retained in drug-free treatment long enough to achieve abstinence. Any treatment [such as substitution treatment] which retains half of those who enrol in treatment, substantially reduces their illicit opioid use and involvement in criminal activity and improves their health and well-being is accomplishing more than “merely” substituting one drug of dependence for another.

In recent years, evaluations of prison substitution treatment programmes have provided clear evidence of their benefits. Studies have shown that, if dosage is adequate (at least 60 mg of methadone) and treatment is provided for the duration of imprisonment, such programmes reduce drug-injecting and needlesharing and the resulting spread of HIV and other blood borne infections. In addition, they have additional and worthwhile benefits, both for the health of prisoners participating in the programmes and for prison systems and the community.

- Substitution treatment positively affects institutional behaviour by reducing drug-seeking behaviour and thus improving prison safety. Prison systems providing substitution treatment benefit, among other things, by reducing withdrawal symptoms on admission (which are often accompanied by self-harm or even suicide attempts), alleviate anxiety upon entry, reducing drug trade and increasing the productivity of prisoners on substitution treatment.
- Re-offending is significantly less likely among the prisoners who receive substitution treatment.
- Substitution treatment in prison significantly facilitates entry and retention in post release treatment compared with prisoners enrolled in detoxification programmes.
- Although prison administrations often initially raise concerns about security, violent behaviour and diversion of prescribed drugs, these problems emerge less often than without the implementation of substitution treatment programmes.
- Both prisoners and correctional staff report how substitution treatment positively influences life in prison.



- Substitution treatment offers daily contact between the health care services in prison and the prisoners, a relationship that can serve as baseline for raising further health issues and a linkage with other strategies for preventing HIV transmission.
- There is evidence that abrupt cessation of substitution treatment once imprisoned increases the risk of self harm and suicide.

In Canada, the federal prison system expanded access to methadone maintenance treatment after evaluation demonstrated that methadone maintenance treatment positively affects release outcome (reduced re-incarceration). Participants in such a treatment programme were less likely to commit crimes and return to prison. This is important because the cost of the institutional substitution treatment programme may be offset by the cost savings of offenders successfully remaining in the community for a longer period of time than equivalent offenders not receiving such treatment.

In addition, substitution treatment can help to reduce the risk of overdose for those nearing release (Dolan et al. 2005 follow-up randomised controlled trial (RCT) = no deaths post-release in methadone maintenance treatment group, 17 deaths in control group]. Many prisoners resume injecting once released from prisons but do so with an increased risk for fatal overdose as a result of reduced tolerance to opiates. Extensive research has noted a large number of deaths during the first weeks after discharge from prison that are attributed to drug overdose. Following a UK study of 51,590 releases from prison (Farrell & Marsden 2005), it has been estimated that approximately 35% of all male drug-related deaths and 12% of all female drug related deaths are from prisoners recently released from prison custody. This points to the utility and necessity of prison through care of drug treatment to counteract such risk situations and highlights the importance of substitution treatment not only as a strategy for preventing HIV transmission in prisons but also as a strategy to reduce overdose deaths upon release.

Kinlock et al. (2007) found in a randomised clinical trial of methadone maintenance for prisoners that methadone maintenance initiated prior to or immediately after release from prison appears to have beneficial short-term impact on community treatment entry and heroin use.

Taken together, this evidence – and the importance of providing care and treatment in prisons equivalent to that available outside – provides compelling reasons for prison systems to introduce substitution treatment. Box 1 provides an example of instructions for the treatment of drug users in Slovenia (Kastelic et al., 2001).



Box 1: Example: General instructions for treating drug users in prisons in Slovenia

The health services for individuals in prisons or correction houses should be equivalent to those provided outside the correctional system.

- The professional independence of counsellors and therapists from security services is very important.
- Close cooperation between the professionals in prisons and in the communities have to be established.
- Addicted individuals must have the option for treatment upon their entry into the prison system (harm-reduction programmes, substitution treatment, detoxification or drug-free treatment).
- They must have the option to be treated in community programmes.



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